

## Check your license status via *WebSite*

You can now check the status and continuing education credit hours of your license, certification, or registration with a new search feature on the Safety and Buildings Division *WebSite*. Entering the customer number from your credential card will provide a readout of some basic information from the S&B computer database.

The feature replaces the long lists of people holding various credentials that previously had been posted monthly on the *WebSite*. The search service is much faster than downloading the lists. No special software will be needed to use the service.

The new service includes a secondary feature allowing searches for groups of credential-holders by type and zip code. The information provided does not include specific addresses or other detailed contact info like telephone numbers, though it will provide status info.

A link to the search page will be featured for a month on the top of the S&B HomePage (<http://www.commerce.state.wi.us/SB/SB-HomePage.html>) and

will be available from many of the site's pages, among the links on the left of the pages, as "Credential Status Check." The page's direct address is <http://www.commerce.state.wi.us/SB/SB-CredentialStatusCheck.html>.



## Take a ride to the Dells

see  
page 5



Special two-day plumbing continuing education session features up to 12 credit hours about Multipurpose Piping, POWTS, Sizing the Water Supply, and More!

## POWTS security - Locks and enclosures

by Roman Kaminski, S&B POWTS Program Manager

Several county code administrators have contacted Safety and Buildings Division staff recently seeking guidance on two POWTS installation issues, relating to protective enclosures and locking devices.

One of the issues concerns the **protective enclosures that are required around the lateral turn-ups** in a pressure distribution network. In order for the protective enclosure to serve its intended purpose, the enclosure must be installed in

continued on page 4

## Inside this *WPCR*

POWTS in Wisconsin 2001-2002 .	page 3
Info left out of <i>WPPR</i> .....	page 3
UW winter POWTS con ed .....	page 4
S&B plumbing ed continues .....	page 7
Dishwasher connections .....	page 8
Emergency fixtures .....	page 10

# Wisconsin Plumbing Codes Report

Safety and Buildings Division, Department of Commerce

Volume 17 No. 12

December 2001

Sample S&B email address:  
tbraun@commerce.state.wi.us

## Safety and Buildings Offices

Green Bay Office  
2331 San Luis Pl #150  
Green Bay WI 54304  
920-492-5601  
Fax 920-492-5604  
greenbaysch@commerce  
.state.wi.us

Hayward Office  
10541N Ranch Rd.  
Hayward WI 54843  
715-634-4870  
Fax 715-634-5150  
haywardsch@commerce  
.state.wi.us

La Crosse Office  
4003 North Kinney  
Coulee Road  
LaCrosse WI 54601  
608-785-9334  
Fax 608-785-9330  
lacrossesch@commerce  
.state.wi.us

Madison Office  
201 W Washington Ave  
PO 2658  
Madison WI 53701  
608-266-3151  
Fax 608-267-9566  
madisonsch@commerce  
.state.wi.us

Shawano Office  
1340 E Green Bay St #300  
Shawano WI 54166  
715-524-3626  
Fax 715-524-3633  
shawanosch@commerce  
.state.wi.us

Waukesha Office  
401 Pilot Ct # C  
Waukesha WI 53188  
262-548-8600  
Fax 262-548-8614  
waukeshasch@commerce  
.state.wi.us

## Plumbing Products Reviewers

Mike Beckwith ..... Madison ..... 608-266-6742  
Lee Finley ..... Madison ..... 608-266-2128  
Glen Schlueter ..... Madison ..... 608-267-1401

## POWTS Wastewater Specialists

Ross Fugill ..... Shawano ..... 715-524-3629  
Leroy Jansky ..... Chippewa Falls ..... 715-726-2544  
Matthew Janzen ..... Stevens Point ..... 715-345-5336  
Carl Lippert ..... Hayward ..... 715-634-3484  
Karl Schultz ..... Oshkosh ..... 920-424-3311  
Dennis Sorenson ..... La Crosse ..... 608-785-9336  
Duane Steiner ..... West Baraboo ..... 608-355-3159  
Allen Wendorf ..... Madison ..... 608-235-0595

## Public Swimming Pool Reviewer

Glen Jones ..... Madison ..... 608-267-5265

### Questions about your continuing education credits?

Check the mailing address back page for a printed line giving your status for plumbing-related S&B credentials. Or, call the Credentialing Unit, 608-261-8500. Or, check the S&B WebSite, <http://www.commerce.state.wi.us/SB/SB-HomePage.html>, choose "Credentials."

## Plumbing Consultants

Tom Braun ..... Stevens Point ..... 715-340-5387  
Don Hough ..... Hayward ..... 715-634-4804  
Tim Joyce ..... Madison ..... 608-235-0557  
Don Oremus ..... Pelican Lake ..... 715-487-6123  
Robert Samuels ..... Waukesha ..... 262-424-3373  
Jim Wehinger ..... Friendship ..... 608-339-7430  
Jim Zickert ..... Eldorado ..... 920-872-2656

## Plumbing Plan Reviewers

Herman Delfosse ..... La Crosse ..... 608-789-5535  
Tom Devereaux ..... Hayward ..... 715-634-3026  
Wes Grube ..... Green Bay ..... 920-492-5613  
Chester Kintop ..... Waukesha ..... 262-548-8634  
Dan Kraft ..... Madison ..... 608-266-8075  
Ken Pertzborn ..... Madison ..... 608-267-2242  
Curt Wendorff ..... Shawano ..... 715-526-9056

## POWTS Plan Reviewers

Charles Bratz ..... La Crosse ..... 608-789-7893  
Tom Devereaux ..... Hayward ..... 715-634-3026  
Wes Grube ..... Green Bay ..... 920-492-5613  
Robert Kanter ..... Madison ..... 608-261-7735  
Julia Lewis-Osborne ..... Waukesha ..... 262-548-8638  
Pete Pagel ..... Madison ..... 608-266-2889  
Tom Perkins ..... Waukesha ..... 262-521-5064  
Pat Shandorf ..... Hayward ..... 715-634-7810  
Jerry Swim ..... La Crosse ..... 608-789-7892  
Keith Wilkinson ..... Shawano ..... 715-524-3630

## Plan Review Scheduling

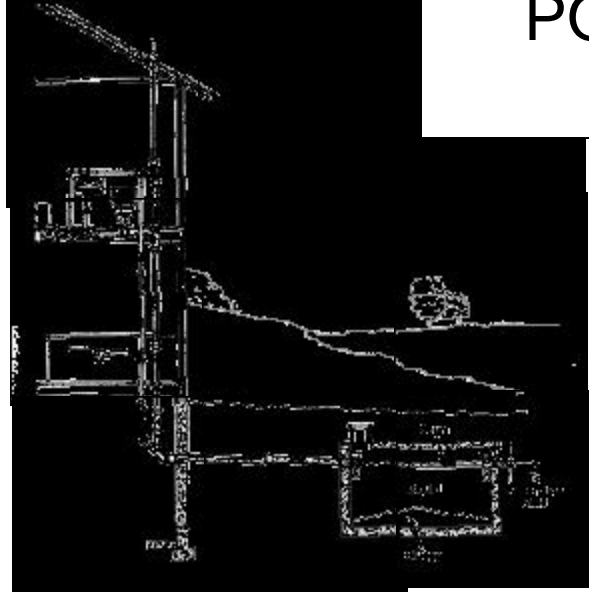
For plan review scheduling for Plumbing and Buildings, call the S&B office numbers listed above left, or contact the email address shown. Fax scheduling is possible encouraged, 877-840-9172. Information about the project will be needed to schedule the plan review. Any of the offices can schedule the first appropriate plan review available statewide.

Plan review for Private Onsite Wastewater Treatment Systems is provided on a first-come, first-served basis. Contact one of the offices for information.

For scheduling info, also see <http://www.commerce.state.wi.us/SB/SB-DailyDoc.html>.

The WPCR is a monthly publication delivered to about 9,900 people as part of their certification, license, or registration with the Wisconsin Department of Commerce, Safety and Buildings Division. Subscriptions are also available. SBD 8340P

The Department of Commerce does not discriminate on the basis of disability in the provision of services or in employment. If you need this printed material interpreted or in a different form, or if you need assistance in using this service, please contact us, 608-266-3151, TTY 608-264-8777.



## POWTS in Wisconsin 2001 - 2002

by Roman Kaminski, S&B POWTS Program  
Manager, rkaminski@commerce.state.wi.us,  
715-345-5334

I want to summarize some of the Private Onsite Wastewater Treatment System-related activities in Wisconsin in 2001. In many respects, 2001 is probably representative of what the future holds for the POWTS program. I expect constant change in the form of advances by the industry, both locally and nationally, and in the form of code revision activities in response to the advances. The Safety and Buildings Division will continue to keep you informed via the *WPCR* and our WebSite, <http://www.commerce.state.wi.us/SB/SB-HomePage.html>.

-After several years of economic prosperity in our state, which was reflected in onsite system installation, calendar year 2001, as of the end of September, was trending toward a slight decline. Based on a survey comparison of state Sanitary Permit activity from January 01 to September 30, I project a 6 percent decline in the number of state Sanitary Permits issued for the year 2001, when compared to the year 2000. While this is a relatively small decline, considering many counties reported that year 2000 was a record setting year, the decline will impact the S&B fiscal situation (which is supported via program revenue such as sanitary permit fees).

-Acceptance of the revised Comm 83 code has reached a level where focus has shifted from debating the merits of having a revised code (with a couple of exceptions), to discussion of technical design, installation, and maintenance code provisions. Ironically, while the lawsuit appeal by those who feel that the code is too permissive remains in the court system, a citizen group in northern Wisconsin is contacting local elected officials state-wide urging them to oppose Comm 83 demanding a repeal of the code because it is too restrictive and an assault on what they define as property rights. A similar group sued Wood County over their implementation of a maintenance tracking system operated by a private vendor. That suit was recently dismissed by a Wood County judge.

-The Comm 83 code council met several times during the year. Council members are working on a code change package to correct code language that either was found in error, needs clarification, or that was removed during the last code revision process and is now being re-introduced.

continued on page 6

## Wieser info missing from Products Register

Eight pages of information on Wieser Concrete approved septic tanks and the stipulations of their approval were omitted from the October 2001 *Wisconsin Plumbing Products Register*. The publication is issued quarterly.

The information is available on the S&B WebSite, <http://www.commerce.state.wi.us/SB/SB-DivPublications.html>.

If you are aware of any other products that should have been listed in the register, but were not, please contact Margaret Slusser, 608-261-6546, [mslusser@commerce.state.wi.us](mailto:mslusser@commerce.state.wi.us)

# POWTS security

continued from page 1

such a way as to prevent dislodging or removal of the entire enclosure when access is sought to the lateral turn-up. If the configuration of the enclosure is such that self-anchoring is not possible, then additional provisions must be made to secure the protective enclosure.

This means, for example, that if you are using a larger diameter plastic pipe, placing it over the turn-up, there must be a suitable means of anchoring the pipe, similar to the way observation pipes are installed.

Another issue is, **“What constitutes a locking device?”**

Comm 84.25(7)(f), states: “Covers located at or above ground for openings larger than 8 inches in diameter shall be provided with locking devices and shall remain locked except for cleaning or maintenance purposes.”

The intent of a locking device, as described in a code interpretation in 1981, is “to prevent opening of the manhole by anyone other than those responsible for necessary repair or maintenance.”

The intent remains the same today . If someone could open the “locking device,” other than a service provider (for example, is there a danger to curious children?), it is unacceptable. The county inspector can and should order it removed and replaced.

If you have any questions about either of these issues, please feel free to contact any POWTS Plan

## UW-Madison Winter 2002 POWTS Education Sessions

Arlington (Feb.14), Tomahawk (Feb. 21),  
Rice Lake (Feb. 26), Fond du Lac (Feb. 28)

- Drip Distribution Design, Installation and Maintenance (3 cr.)
- Linking Linear Loading Rate to Soil Morphology (3 cr.)
- Mound/At-Grade System Design with Pressure Distribution (3 cr.)
- Matching Soil Science, Code Requirements, and Reality (3 cr.)

Three continuing education credit hours approved by S&B for each session for MP, MPRS, JP, JPRS, POWTS Insp., POWTS Maint., and Soil Tester.

Cost of each session is \$35. Lunch available with advanced registration only, \$7.50. Class sizes may be limited.

Brochures will be available in December. For more information, contact Jim Peterson, UW Environmental Resources Center, 1450 Linden Drive, Madison, 53706; 608 262-3799; jopeters@facstaff.wisc.edu

Reviewer or Wastewater Specialist, listed on page 2 of this *WPCR*, or via the S&B WebSite, <http://www.commerce.state.wi.us/SB/SB-DivContacts.html>.

**Subscriptions  
Address  
Changes**

**For those of you who receive the *WPCR* free,** because you have a particular license administered by the Safety and Buildings Division, address changes should be provided to the S&B Credential Unit, [madisoncred@commerce.state.wi.us](mailto:madisoncred@commerce.state.wi.us), 608-261-8500.

**People with paid subscriptions,** may request service and address changes from Material Orders, PO Box 2509, Madison, WI 53701. Fax 608-261-6699. Telephone 608-267-4405. Subscriptions are \$20, payable in advance to the Safety and Buildings Division for 12 monthly issues.

# Two days in the Dells!

## Continuing Education!

Learn how to design and install  
multipurpose piping systems!  
Brush up on the code! Prepare for an exam!

January 29 and 30, 2002 at the Chula  
Vista Resort in Wisconsin Dells



Hours	Date-Time	Class Title	Con ed credit for which categories
<input type="checkbox"/> 3	29th, a.m.	"Comm 82.32-36, 41, etc."	UDC-PI, MP, JP
<input type="checkbox"/> 3	29th, p.m.	"Water Supply Sizing"	UDC-PI, MP, JP, MP-RS, JP-RS, MP-RA, JP-RA
<input type="checkbox"/> 3	30th, a.m.	"POWTS"	POWTS I, MP, JP, MP-RS, JP-RS
<input type="checkbox"/> 3	30th, p.m.	"Drain and Vent"	UDC-PI, MP, JP
<input type="checkbox"/> 6*	29th, a.m./p.m.	"Multipurpose Piping Intro"	UDC-PI, MP, JP, MP-RA, JP-RA
<input type="checkbox"/> 6*	30th, a.m./p.m.	"Multipurpose Piping In-Depth"	UDC-PI, MP, JP, MP-RA, JP-RA



Check the boxes of the classes you wish to attend. Choose up to 12 hours of class. Don't choose conflicting classes. Make sure classes are approved for your credentials. (Credits are not valid for April 1, 2002 renewals. The April 1, 2002 con ed cycle ends Dec. 31, 2001.)

\* If a master plumber licensed before Jan. 1, 2001 takes both days of the "Multipurpose Piping Systems" classes, they get an accreditation as a Multipurpose Piping Systems Installer. Master plumbers licensed after Jan. 1, 2001 will receive the accreditation as part of their exam.

Cost is \$290 for the package, which includes class materials, break refreshments, resort single room the night of Jan. 29, lunch and dinner on Jan. 29, breakfast and lunch on Jan. 30. Offer is for package only. Single classes at a lower fee are not being offered. **Attendees' families are welcome to enjoy the facility, including the indoor water park.** Family member meals are not included in package. Check out Chula Vista on the Internet, [chulavistaresort.com](http://chulavistaresort.com). S&B staff and managers will be available at dinner on Jan. 29 for Q&A and conversation.

Register by Jan. 3, 2002. One form per person. Confirmations will be sent to registrants. You will be contacted by telephone if the session you select is full. **Keep a copy of this form as a reminder of what you registered for.** If you have registration questions, call Violet Lehmann, 608-266-3594, or email [vlehmann@commerce.state.wi.us](mailto:vlehmann@commerce.state.wi.us).

Personal information you provide may be used for secondary purposes [Privacy Law, s. 15.04 (1)(m)].

Name: \_\_\_\_\_ Credential Number: \_\_\_\_\_

Address, city, and zip code: \_\_\_\_\_

Day phone, with area code: \_\_\_\_\_

- |                                       |    |   |
|---------------------------------------|----|---|
| <input type="checkbox"/> single room  | or | <input type="checkbox"/> double room (more than one person in a room)** |
| <input type="checkbox"/> smoking room | or | <input type="checkbox"/> non-smoking room                               |

\*\*Attendee will be responsible for additional \$20 double room charge plus any applicable sales tax and room charges. The costs will be payable to the hotel at check out.

Make \$290 check to "Dept. of Commerce." Check #: \_\_\_\_\_ Fiscal Code 100-143-SBDV-323R-SG72-7630

Mail check and form to: S&B Credential Unit, P.O. Box 1484, Madison, WI 53701-1484

Classes and facility are accessible for people with disabilities. The Department of Commerce is an equal opportunity service provider and employer. If you need assistance to access services or need material in an alternate format, please contact the department at 608-266-3151 or TTY 608-264-8777.

# POWTS 2001 - 2002

continued from page 3

The most significant proposed revisions include modifications to the soil application rate and vertical soil separation tables. Of particular interest will be the reintroduction of the so-called “third column” in the vertical soil separation table. This column is intended to recognize that POWTS pre-treatment devices that are capable of consistently producing a high quality effluent of less than  $10^3$  cfu/100ml fecal coliform should be given two feet of soil treatment equivalence. Recent studies conducted by UW-Madison researchers and the state Lab of Hygiene appear to support this concept. Acceptance of this proposal would eliminate the disadvantage that the single pass sand filter design has based on the current code. While all other POWTS systems need only to provide three feet of soil treatment, the single pass sand filter provides four feet of soil treatment. The sand filter, while providing a high quality effluent, is doing so at a competitive disadvantage.

Some other highlights in the latest version of the proposed code revision package include:

- Wording that clarifies that the code is a “uniform” state code;
- Delegation of holding tanks designed for less than 3,000 gpd design flow to governmental units for plan review;
- Allowing governmental units to review plans for gravity flow systems that serve up to two, one- or two-family dwellings with an accessory building;
- Clarification of the processing steps for large systems between the state Department of Commerce (of which S&B is part) and the Department of Natural Resources;
- Listing of public water mains in the Horizontal Setback Table;
- Repeal of the requirement for water meters for properties served by holding tanks;
- Clarification that the owner must report inspection, maintenance, or servicing events to the governmental unit, rather than to S&B;
- Modification of the inspection, maintenance, or servicing reporting deadline from 10 business days to 30 calendar days;

- Clarification that the governmental unit, not S&B, is responsible for maintaining records related to inspection, maintenance, and servicing;

- Clarification of the language in Comm 85 that relates to less than A+4 soil conditions;

- Clarification of the abrupt-textural-change code language;

- An inclusion of “registration” language for privies serving state-owned properties.

S&B staff are continuing work on the code package. Notice of public hearing will appear in a future issue of the *WPCR*.

-S&B recently concluded releasing funds for the fiscal year to counties that participate in the Wisconsin Fund program. Funding eligibility was determined on the same basis as in past years. Contrary to concerns raised by a few individuals, eligibility was determined based on the least costly method for the POWTS system that was installed. In other words, if a mound was installed, existing funding tables for mound systems were used to determine the funding amount. The cost of a holding tank, for example, was not used when determining the cost of a mound system.

-Mike Corry, S&B Division Administrator, is spearheading an effort by the National Onsite Wastewater Recycling Association (NOWRA) to develop a model national onsite code. The intent is for NOWRA to market this code to the states and municipalities in a similar fashion as other national model codes such as the national building code or national electrical code, both of which have widespread acceptance around the country.

## POWTS 2001 - 2002

**S&B WebSite:**  
**[www.commerce.state.wi.us/sb](http://www.commerce.state.wi.us/sb)**

# Plumbing education continues in Jan, Feb

Safety and Buildings Division winter education classes continue in January and February, featuring "Code Update" topics. These classes do not count toward the continuing education responsibilities of people whose plumbing license or certification expires March 31, 2002. The education period for March 31, 2001 renewals ended December 31, 2001.

The "Code Update" topics focus on a code change package that has been developed over several years by S&B staff and the Plumbing Advisory Council, a package which is expected to go to public hearings in early 2002. (Watch the *WPCR* and the *S&B WebSite* for hearing info.)

Some of the code change ideas were discussed in an August, 2001 *WPCR* article, page 6. Copies of the *WPCR* are on the *WebSite* under "Publications," "Publications Archives."

A registration form for the S&B classes was in the October, 2001 *WPCR*. The form is also available on the Internet, <http://www.commerce.state.wi.us/SB/SB-HomePage.html> (scroll to middle of page).

## **Residential Plumbing for Inspectors ;**

Milwaukee Area Technical College Real Estate Program; Focuses on passing the state Uniform Dwelling Code Plumbing Inspector Exam, including pipe sizing, water distribution, waste systems, and cross connection; RLEST course # 191. Prerequisite: RLEST-189; Contact Tom Ortell, 414-302-5284.

## **Dates and locations:**

- ☐ Jan. 8, 2002 - The Colonial, Sparta 1415 W Wisconsin St, Sparta, 608-269-1806
- ☐ Jan. 10, 2002 - Country Inn and Suites, 10290 Hwy 27 S, Hayward, 715-634-4100
- ☐ Jan. 15, 2002 - Park Inn, 300 Highway 151, Platteville, 608-348-2301
- ☐ Jan. 17, 2002 - Wintergreen Resort, 60 Gasser Road, Wisconsin Dells, 608-254-2285
- ☐ Jan. 23, 2002 - Holiday Acres, 4060 S Shore Drive, Rhinelander, 715-369-1500
- ☐ Feb. 5, 2002 - Ramada Inn, 2750 Ramada Way, Green Bay, 920-499-0631
- ☐ Feb. 7, 2002 - Ramada Plaza Hotel, One North Main St., Fond du Lac, 920-923-3000

## **Categories eligible to earn 3 credit hours:**

Journeyman Plumber License; Journeyman Plumber-Restricted Appliance License; Journeyman Plumber-Restricted Service License; Master Plumber License; Master Plumber-Restricted Appliance License; Master Plumber-Restricted Service License; POWTS Inspector Certification; Plumber-Journeyman License; Plumber-Journeyman Restricted Appliance License; Plumber-Journeyman Restricted Service License; Plumber-Master License; Plumber-Master Restricted Appliance License; Plumber-Master Restricted Service License; UDC-Plumbing Inspector Certification.

**Safety and Buildings-related codes are on the Internet,  
[www.commerce.state.wi.us/SB/SB-CodesListing2001.html](http://www.commerce.state.wi.us/SB/SB-CodesListing2001.html)**

Not all codes are available electronically. Paper copies may be purchased from Document Sales, 800-362-7253, for credit card purchases, or 608-266-3358.

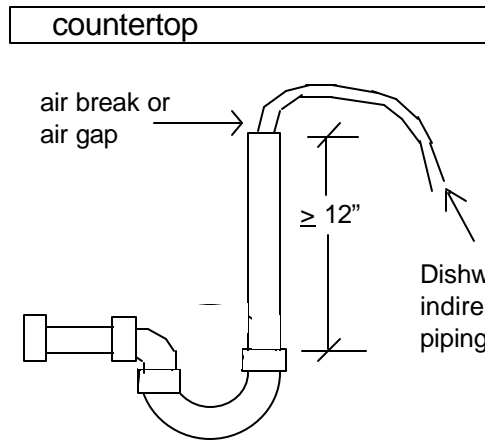
State administrative codes and the code update service may be purchased by contacting state Document Sales, 608-266-3358, or 800-362-7253, for credit card purchases. ❖ ❖ ❖ ❖ ❖ ❖

# Code-compliant dishwasher connections . . .

## What can I do, where?

by Lynita Docken, S&B Plumbing Program Manager, 608-785-9349, Ldocken@commerce.state.wi.us

There are two locations for air gaps for dishwasher connections currently listed in the plumbing code, Comm 82.33(9)(d). One option is for an air-gap or air-break located **below** a countertop. The other option is for an air-gap located **above** a countertop.

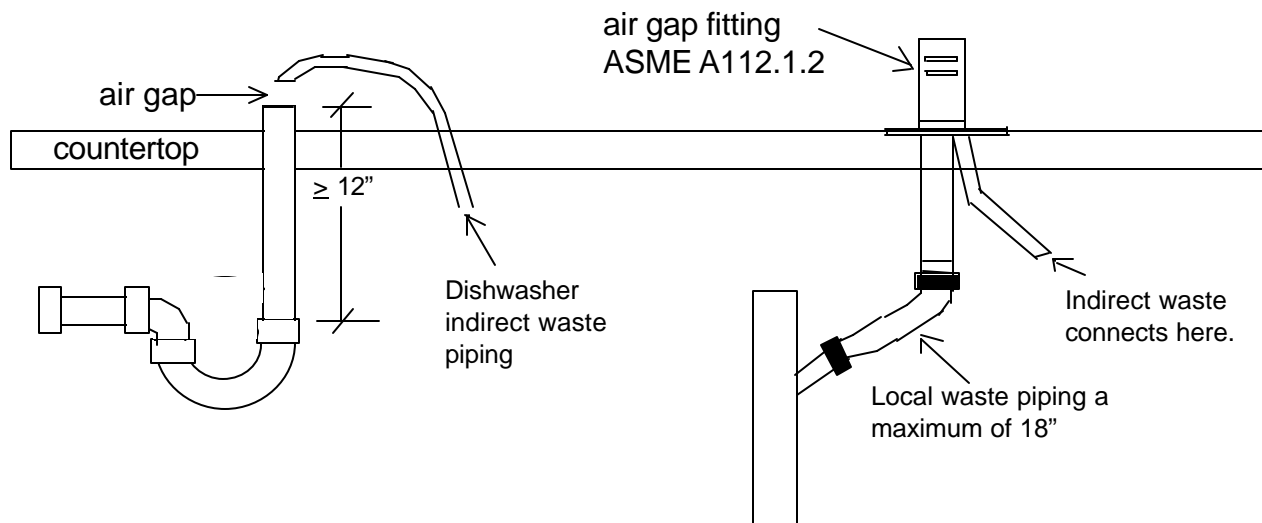


### Below Countertop Installation

Comm 82.33(9)(d)1a: “An air-gap or air-break may be located below a countertop. Where an air-gap or air-break is located below a countertop, the indirect waste piping from the dishwashing machine shall discharge into a standpipe. The standpipe shall be at least 1 1/2 inches in diameter and shall extend at least 12 inches above the trap inlet.”

### Above Countertop Installation

Comm 82.33(9)(d)1b addresses the requirements when you want the air-gap above the countertop (notice that the above the countertop installation only permits an air-gap, not an air-break): “An air-gap may be located above a countertop. Where the air-gap is located above a countertop, the indirect waste piping from a dishwashing machine shall discharge into either a standpipe or local waste piping. The standpipe shall be at least 1 1/2” in diameter and shall extend at least 12 inches above the trap inlet. The local waste piping shall connect to the fixture drain of a kitchen sink above the trap inlet. Where a hose is used for local waste piping, the developed length shall not exceed 18 inches.”





# Contact Information for Safety and Buildings Services

## To schedule an appointment:

- FAX: 24 hr. toll-free number for appointment scheduling, 877-840-9172
- E-mail: [madisonsch@commerce.state.wi.us](mailto:madisonsch@commerce.state.wi.us)
- Telephone: Green Bay.....920-492-5601  
Hayward ..... 715-634-4870  
LaCrosse ..... 608-785-9334  
Madison ..... 608-266-3151  
Shawano ..... 715-524-3626  
Waukesha ..... 262-548-8600



## To obtain application forms:

- Call any of the offices listed above.
- On the S&B WebSite (choose "Forms" on left side of screen):  
**<http://www.commerce.state.wi.us/SB/SB-HomePage.html>**

## Info about next available review appointment:

**<http://www.commerce.state.wi.us/SB/SB-DailyDoc.html>**

## E-mail answers to technical questions:

-Commercial buildings, Comm 50-64, 66, 69, etc. = [bldgtech@commerce.state.wi.us](mailto:bldgtech@commerce.state.wi.us)

-Plumbing, cross connection = [plbgtech@commerce.state.wi.us](mailto:plbgtech@commerce.state.wi.us)

-Private onsite wastewater treatment = [powtstech@commerce.state.wi.us](mailto:powtstech@commerce.state.wi.us)

-Public swimming pools =  
[pooltech@commerce.state.wi.us](mailto:pooltech@commerce.state.wi.us)

-Building and plumbings products =  
[productech@commerce.state.wi.us](mailto:productech@commerce.state.wi.us)

-Licenses, certifications, registrations =  
[madisoncred@Commerce.state.wi.us](mailto:madisoncred@Commerce.state.wi.us)

-Manufactured/mobile homes = [manf-homes@commerce.state.wi.us](mailto:manf-homes@commerce.state.wi.us)

-One- and Two-family Dwelling Code =  
[udctech@commerce.state.wi.us](mailto:udctech@commerce.state.wi.us)

**Safety and Buildings-  
related codes are on  
the Internet,  
[www.commerce.  
state.wi.us/SB/SB-  
CodesListing2001.html](http://www.commerce.state.wi.us/SB/SB-CodesListing2001.html)**

Not all codes are available  
electronically. Paper copies may be  
purchased from Document Sales, 800-  
362-7253, for credit card purchases, or  
608-266-3358.

# Sizing the water supply is especially important for emergency fixtures

by Lynita Docken, S&B Plumbing Program Manager, 608-785-9349,  
Ldocken@commerce.state.wi.us

It's important to pay extra attention to sizing the water supply system for plumbing designs which include emergency fixtures such as showers and eye washes.

There are no Wisconsin plumbing rules that require the installation of emergency fixtures. However, if an emergency fixture is to be installed, a plumber must comply with Comm 82.40(7), which contains rules for sizing the system.

The language in Comm 82.40(7) is based on performance. "The sizing of the water supply system shall be based on the empirical method and limitations outlined in this subsection, or on a detailed engineering analysis ..."

An empirical method is defined as one which is developed "solely on practical experience and without regard for system or theory." From that definition, Tables 82.40-1, 2, and 3 were developed using practical experience. The water system design process in the code is based on Hunter's Curve and probability of simultaneous use.

The code would allow you to use these tables. However, nowhere in Table 82.40-2 will you find the water supply fixture unit (WSFU) value for an emergency shower or eyewash.

You can use the second part of the code requirement for sizing, i.e., an engineering analysis to size the system. Above right is an example of an analysis that would be acceptable:



## Step One - Calculating Demand

Calculate the demand of the system in gallons per minute. Most of the fixtures in the system will be included by adding WSFUs (Table 82.40-1 or -2) and converting them to gallons per minute (Table 82.40-3). The emergency fixture demand will be added to that demand.

For example, if the system demand without an emergency fixture is 20 gpm and the demand of the emergency shower is 20 gpm, the total demand of the system will be 40 gpm. Most emergency fixture manufacturers construct fixtures to comply with the ANSI Standard Z358.1-1998. This standard requires that the minimum flow rates for emergency fixtures are as shown here:

Eye Wash	.4 gpm
Face Wash	3 gpm
Drench Hose	3 gpm
Drench Shower	20 gpm

Safety and Buildings division plumbing plan reviewers will accept a design submitted with other information as to the demand of emergency fixtures, however, in general, the reviewers will use the ANSI standard specifications as assigned in Table 1.

**S&B WebSite:**  
**www.commerce.**  
**state.wi.us/sb**

If you have questions about your continuing education status, contact the Safety and Buildings Division Credentialing Unit, 608-261-8500, madisoncred@commerce.state.wi.us.

## Step Two - Assigning the Controlling Fixture

Comm 82.40(7)(a)5 requires that the water supply sizing calculations include the minimum flow pressure needed at the controlling fixture. When assigning the value of the controlling fixture, emergency fixtures should be evaluated. The ANSI standard requires that fixtures complying with the standard operate at a pressure of at least 30 psig, so without additional information from the manufacturer, the reviewers and plumbers should assume a pressure of 30 psig for emergency fixtures. Depending on other fixtures within the system, this 30 psig could, in many instances, be the pressure needed at the controlling fixture.



With the correct information, the plumbing system can be reliable and safe. Without the consideration of high-demand emergency fixtures and controlling fixture pressure requirements, the system could be incorrectly designed to respond in emergency situations. If you have more questions, contact a reviewer or consultant listed on page 2 of this *WPCR*.

## New, updated multipurpose piping calc sheets

Combination  
water calc  
worksheet for  
home plumbing  
and NFPA 13D  
fire protection  
system, SBD-  
10717 (R11/01)

[http://  
www.commerce.state.wi.us/  
SB/SB-DivForms.html](http://www.commerce.state.wi.us/SB/SB-DivForms.html)

or, from a Safety and  
Buildings Division  
plumbing plan  
reviewer, see page 2



WPCR - December 2001  
Safety and Buildings Division  
201 W Washington Ave  
PO Box 2509  
Madison WI 53701

ADDRESS SERVICE REQUESTED

Prst Std  
U.S. Postage  
PAID  
Permit No.  
880  
Madison WI